

## Remarks

### Corrections to the Disclosure

Paragraphs 0008, 0024, and 0026 of the specification have been amended to correct informalities noted by the Examiner. The phrase “there is may” has been corrected to read “there may” in paragraph 0008. Paragraph 0024 has been amended to identify item 40 as a “copper slab.” As described in paragraphs 0024 and 0026, copper slab 40 also acts as an electrode in the welding process. Paragraph 0026 has been amended to identify item 44 as a cylinder.

It is intended that these changes to the specification correct the informalities noted by the Examiner and remove the bases for objection.

### Claim rejections-35 USC § 112

Claims 5 and 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Claims 5 and 6 have each been amended to recite, in the first instance, “a second surface” rather than “said second surface.” It is believed that this change to each claim resolves the antecedent issue and the Examiner is requested to withdraw these rejections.

### Claim rejections-35 USC § 102

Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Wang (US Patent 6,836,948). Claims 1 and 2 are rejected under 35 U.S.C. 102(a/e) as being anticipated by Wang et al (US Patent 6,694,597).

A Declaration of Pei-Chung Wang under 37 CFR 1.132 is enclosed with this paper. Dr. Wang is a co-inventor in this application and in US Patent 6,694,597. He is the sole inventor in US Patent 6,836,948. He has reviewed the disclosures of US Patent 6,694,597 and US Patent 6,836,948 and declares that any invention disclosed but not claimed in either of these patents was derived from him, or the co-inventorship entity of which he was an integral part, and not the invention “of another.” Accordingly, it is respectfully requested that these rejections be reconsidered and withdrawn.

Claim rejections-35 USC § 103(a)

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being obvious over Wang (US Patent 6,836,948) in view of the Admitted Prior Art and/or Stol et al (US Patent 6,769,595).

A Declaration of Pei-Chung Wang under 37 CFR 1.132 is enclosed with this paper. Dr. Wang is a co-inventor in this application and in US Patent 6,694,597. He is the sole inventor in US Patent 6,836,948. He has reviewed the disclosures of US Patent 6,694,597 and US Patent 6,836,948 and declares that any invention disclosed but not claimed in either of these patents was derived from him and not the invention of another. Accordingly, it is respectfully requested that these rejections be reconsidered and withdrawn.

Nonstatutory Double Patenting Rejections

Claims 1 and 3-7 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-5 of US Patent No. 6,836,948 in view of the Admitted Prior Art and/or Stol et al.

A terminal disclaimer with respect to US Patent No. 6,836,948 is enclosed with this paper. It is signed by Kathryn A. Marra, an attorney of record in this application. Also enclosed is a Fee Transmittal authorization for the terminal disclosure paper. Accordingly, it is respectfully requested that the rejection of claims 1 and 3-7 be reconsidered and withdrawn.

Claim 1 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 6, 8, 9 and 15 of US Patent No. 6,694,597 in view of the Admitted Prior Art.

A terminal disclaimer with respect to US Patent No. 6,694,597 is enclosed with this paper. It is signed by Kathryn A. Marra, an attorney of record in this application. Also enclosed is a Fee Transmittal authorization for the terminal disclosure paper. Accordingly, it is respectfully requested that the rejection of claims 1 and 3-7 be reconsidered and withdrawn.

### Claim Rejection 35 U.S.C. 103(a)

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aeschlimann et al (WO 98/42988; See US Patent 6,913,666 for English translation) in view of Rice et al (US Pub. 2004/0050906). The Examiner is respectfully requested to reconsider and withdraw this rejection for the following reasons.

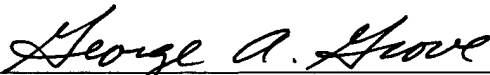
The Aeschlimann et al disclosure (hereafter Aeschlimann for brevity) uses a joining pin to join two parts made of a porous material such a wood or a wood-like substance. The parts are placed one over the other and a bore is made through one part into the adjoining part. The joining pin is made of a thermoplastic material (or has thermoplastic regions). Aeschlimann uses ultrasonic energy or the like to plasticize regions of the pin to fuse to the wood members. As the Examiner observes, Aeschlimann does not propose passing an electrical current through the pin and one of the wood members. Indeed, Aeschlimann does not require that either member to be joined or his joining pin can conduct electricity. So the Examiner turns to the Rice et al published application.

Rice discloses friction welding practices. The welding tool or probe is provided with a surface that is susceptible to heating by absorption of electromagnetic radiation emanating from a remote source. Thus, the Rice et al welding site is heated by the friction between the probe and workpieces and by the radiation-induced heat in the probe surface. While there might conceivably be some current flow within the EMF responsive surface of the probe, no current flow from the probe is disclosed. There is no disclosure in Rice et al that an electrical current flows from the probe into a workpiece to fuse the welding probe and the workpiece. Rice et al just want to heat the probe of the friction weld apparatus; they don't want to fuse it to a part to be joined. The probe is removed for another friction welding job.

But applicants' claims 1-3 require that an electrical current flow through the welding member and the second material and that they be fused together. Rice et al do not teach or suggest such a practice. This rejection of claims 1-3 should be withdrawn.


It is believed that each of the above objections and claim rejections has been met. It is respectfully requested that claims 1-7 be allowed and this case passed to issue.

Respectfully Submitted,

  
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#### CERTIFICATE OF MAILING

I hereby certify that this correspondence is, on the date shown below, being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on: 4/19/06.

  
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